surface roughness of an electrode at the contacting portion and the defect percentage. In the example shown in FIG.6, the power supplied to the high pressure discharge lamp was 200 W, the diameter φ of the electrode was 0.6 mm, and the length of the contacting portion formed by contacting the electrode and the quartz glass bulb was 1.2 mm. The surface roughness of the electrode was measured by using a contact-type surface roughness measuring instrument. The maximum value, $R_{max}$, of the surface roughness of the electrode is defined as the maximum of the absolute value of the difference between the distance from the axial center 43 of the electrode (as shown in FIG. 1) to a particular point on the surface of the electrode and the mean value of the distance.

**IN THE CLAIMS:**

**Please cancel claim 5 without prejudice or disclaimer.**

**Please amend the following claims:**

1. (Amended) A high pressure discharge lamp, comprising:

a quartz glass bulb;

a conductive element which is airtightly sealed at a sealing portion of said quartz glass bulb; and

a pair of electrodes, each electrode of said pair of electrodes being disposed in said quartz glass bulb so as to be opposite the other and said each electrode of said pair of electrodes being connected to said conductive element,

wherein a part of said each electrode of said pair of electrodes is sealed with said quartz glass bulb at said sealing portion so as to generate a contacting portion formed by the part of each electrode of said pair of electrodes and said quartz glass bulb, and

a maximum length $L_{max,}$ of the contacting portion is defined as: